

**ABSTRACT OF THE DISCLOSURE**

A method of embedding data in material comprises the steps of:  
 embedding data in original material to produce data embedded material;  
 removing the watermark from the data embedded material to produce  
 5 recovered material;  
 comparing the original and recovered material to determine the differences and  
 locations of differences therebetween; and  
 storing the said locations and corrections which correct the said differences.

A method of removing the data embedded in the material, comprises the steps

10 of:  
 removing the data from the material to produce recovered material;  
 deriving the said corrections and locations from the said store; and  
 using the corrections to correct the recovered material at the said locations.

A method of embedding data in material, preferably comprises the steps of:  
 15 producing transform coefficients  $C_i$  representing a spatial frequency transform  
 of the material, and

combining the coefficients  $C_i$  with the data bits  $R_i$  to produce a modified  
 coefficient  $C_i'$  where

$$C_i' = C_i + \alpha_i R_i$$

20 the method further comprising determining  $\alpha_i$  for each unmodified coefficient  
 $C_i$  as a function  $F\{C_n\}_i$  of a predetermined set  $\{C_n\}_i$  of transform coefficients  $C_n$   
 which set excludes the coefficient  $C_i$ .

[Figures 3A, B and 4]